

Appl. No. : 10/759,664
Filed : January 19, 2004

REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested. Prior to this Amendment, Claims 1-35 were pending in this application. Claim 1 is herein canceled, leaving Claims 2-35 as now pending. Claims 2-4, 6, 11-14, 16-18, 20, 21, and 30-35 are herein amended to further clarify Applicants' claimed invention. The specific changes to the claims are shown above, wherein the insertions are underlined and the ~~deletions are in bold and either stricken through or [[surrounded by double brackets]]~~.

Also, Applicants kindly thank the Examiner for meeting with Applicants' attorney, Edward A. Schlatter, on November 16, 2005. During that meeting, certain amendments to the claims were agreed to, which amendments are herein made.

Applicants submit that this application, as amended, is in condition for allowance and such action is earnestly requested. Each of the Office Action's reasons for rejection is addressed below.

Double Patenting

Claims 1-35 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-134 of U.S. Patent No. 6,679,341, which is the parent of the present application. A terminal disclaimer is submitted herewith in order to overcome this rejection.

Claims 1-10, 13, and 16-34 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-78 of U.S. Patent No. 6,347,674 to Bloom et al. ("Bloom '674"). The Office Action states that although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of Bloom fully encompass the instant claims. Applicants respectfully traverse this rejection on the grounds that (1) the Office Action fails to set forth a *prima facie* case of double patenting, and (2) the present claims are patentably distinct from those of Bloom '674.

In support of its assertion that the present claims are not patentably distinct from those of Bloom '674, the Office Action states that the latter's claims "fully encompass the instant claims." Thus, the Office Action appears to base its conclusion on a perception that the claims of Bloom '674 dominate the present claims. "Domination and double patenting should not be confused.

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They are two separate issues. One patent or application ‘dominates’ a second patent or application when the first patent or application has a broad or generic claim which fully encompasses or reads on an invention defined in a narrower or more specific claim in another patent or application. Domination by itself, i.e., in the absence of statutory or nonstatutory double patenting grounds, cannot support a double patenting rejection.” M.P.E.P. § 804(II); *In re Kaplan*, 789 F.2d 1574 (Fed. Cir. 1986), 1577-78; *In re Sarrett*, 327 F.2d 1005, 1014-15 (CCPA 1964).

M.P.E.P. § 804(II)(B)(1) states “Any obviousness-type double patenting rejection should make clear:

(A) The differences between the inventions defined by the conflicting claims – a claim in the patent compared to a claim in the application; and

(B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent.”

The Office Action does not articulate the differences between the inventions defined by the present claims and those of Bloom ‘674, or the reasons why a person of ordinary skill in the art would conclude that the inventions defined in the present claims are obvious variations of the inventions defined in the claims of Bloom ‘674. Accordingly, the rejection is deficient on this basis alone.

As discussed in M.P.E.P. § 804(II)(B)(1), a determination of obviousness-type double patenting should be made based on the following factual inquiries:

(A) Determine the scope and content of a patent claim and the prior art relative to a claim in the application at issue;

(B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;

(C) Determine the level of ordinary skill in the pertinent art; and

(D) Evaluate any objective indicia of nonobviousness.

Claim 1 of Bloom ‘674 recites a flow restrictor having a first position in which said restrictor completely blocks fluid flow, a range of second positions in which said restrictor permits a first level of fluid flow, and a third position in which the restrictor permits a second

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level of fluid flow, which is greater than the first level of fluid flow. Claim 1 of Bloom '674 also recites a motor and a coupler connecting the motor with the flow restrictor. In contrast, present Claim 34 recites, *inter alia*, a valve system in which a propulsion control valve is piloted by fluid pressures in first and second gripper assemblies, such that the propulsion control valve moves from its first position to its second position only after said gripper control valve moves from its first position to its second position, as defined in the claim. Present Claim 35 recites, *inter alia*, that movement of the tractor assembly through the borehole is entirely hydraulically controlled. The scope and content of present Claims 34 and 35 is clearly very different from that of Claim 1 of Bloom '674. Present Claim 34 is concerned with a sequence of movement of the gripper control valve and propulsion control valve, and present Claim 35 is directed to a tractor assembly that is entirely hydraulically controlled. Skilled artisans would not have considered the objectives of valve sequencing and hydraulic control to be equivalent or related to the goal of providing a motor-controlled flow restrictor with different position ranges for providing different degrees of flow. Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claim 1 of Bloom '674 (and dependent claims thereof).

Claim 2 of Bloom '674 recites a tractor that can propel itself at a sustained rate of less than 50 feet per hour and at a sustained rate of greater than 100 feet per hour. This is not related to, and would not have been thought to be equivalent to, the goals of sequencing movement of separate valves for gripper control and propulsion control and/or hydraulic control of the tractor. Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claim 2 of Bloom '674 (and dependent claims thereof).

Claim 19 of Bloom '674 recites a motor-controlled spool valve comprising an elongated spool movable within a spool passage to control flowrates, the spool having first, second, and third positions corresponding to different rates of flow. Similarly, Claim 27 of Bloom '674 recites a flow-restricting body having one or more recesses on edges thereof, and having first, second, and third position ranges corresponding to different rates of flow. Claim 30 of Bloom '674 recites an elongated valve spool having a flow-restricting segment with one or more recesses on an end thereof, and first, second, and third position ranges corresponding to different rates of flow. Like Claim 1 of Bloom '674, these claims are not related to, and would not have

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been thought to be equivalent to, the goals of sequencing movement of separate valves for gripper control and propulsion control and/or hydraulic control of the tractor. Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claims 19, 27, and 30 of Bloom '674 (and dependent claims thereof).

Claim 42 of Bloom '674 recites a motor-controlled valve that controls a flow rate, and a pressure compensation piston that equalizes pressure between the valve and a motor that controls the valve. This claim is not related to, and would not have been thought to be equivalent to, the goals of sequencing movement of separate valves for gripper control and propulsion control and/or hydraulic control of the tractor. Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claim 42 of Bloom '674 (and dependent claims thereof).

Claim 44 of Bloom '674 recites a gripper assembly comprising an inflatable bladder and one or more elongated beams radially outside the bladder, the beams configured to flex outwardly to engage a borehole surface. Somewhat similarly, Claim 67 of Bloom '674 recites a tubular bladder assembly comprising a bladder and a plurality of flexible beams on the radial exterior of the bladder, the beams configured to flex to grip onto a borehole when the bladder is inflated. These claims are not related to, and would not have been thought to be equivalent to, the goals of sequencing movement of separate valves for gripper control and propulsion control and/or hydraulic control of the tractor. Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claims 44 and 67 of Bloom '674 (and dependent claims thereof).

Claim 48 of Bloom '674 recites a tractor having a body that is sufficiently flexible such that the tractor can turn up to 30° per 100 feet of travel, while the longitudinal load is at least 5250 pounds. Somewhat similarly, Claim 61 of Bloom '674 recites a tractor having a body configured so that when the body is subjected to torque as high as 500 ft-lbs, twisting of the body is limited to 5° per step of the tractor. This claim also recites that the body is sufficiently flexible such that the tractor can turn up to 60° per 100 feet of travel. These two claims are not related to, and would not have been thought to be equivalent to, the goals of sequencing movement of separate valves for gripper control and propulsion control and/or hydraulic control of the tractor.

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Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claims 48 and 61 of Bloom '674 (and dependent claims thereof).

Claim 71 of Bloom '674 recites a set of two or more connected tractors, comprising a logic component controlling valves of the tractors so as to actuate and retract selected ones of the tractors' grippers simultaneously. This claim is not related to, and would not have been thought to be equivalent to, the goals of sequencing movement of separate valves for gripper control and propulsion control and/or hydraulic control of the tractor. Accordingly, Applicants submit that present Claims 34 and 35 (and dependent claims thereof) are patentably distinct from Claim 71 of Bloom '674 (and dependent claims thereof).

Section 102 Rejections

The above-indicated amendments to Claims 34 and 35 were agreed to read over Bloom '674 and U.S. Patent No. 6,241,031 to Beaufort et al. ("Beaufort").

Claim 34

With respect to Claim 34, neither Bloom '674 nor Beaufort discloses a propulsion control valve that is piloted by fluid pressures in first and second gripper assemblies, such that the propulsion control valve moves from its first position to its second position *only after* the gripper control valve moves from its first position to its second position. Bloom '674 discloses a valve 154 (e.g., Figure 4A) that directs fluid into the gripper assemblies, and two separate propulsion control valves 156 and 158 (one for each propulsion assembly). Moreover, Bloom '674 discloses an *electrically controlled* tractor, which employs electrical motors 160, 162, and 164 to shift the valves. With regard to valve sequencing, the system of Bloom '674 is flexible – it does not mandate a particular sequence of motion.

Beaufort also discloses a system that employs electrically controlled valves, specifically valves 70, 72, and 74 (Figure 3A), which are controlled by motors. A propulsion control valve 56 and a gripper control valve 62 are provided. Beaufort discloses that the gripper control valve 62 operates "generally in tandem" with valve 56. Col. 22, lines 24-27. Accordingly, Beaufort does not disclose a propulsion control valve that is piloted by fluid pressures in first and second gripper assemblies, such that the propulsion control valve moves from its first position to its

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second position *only after* the gripper control valve moves from its first position to its second position.

Claim 35

With respect to Claim 35, neither Bloom '674 nor Beaufort discloses a tractor assembly whose movement through a borehole is *entirely hydraulically controlled*. As mentioned above, Bloom '674 and Beaufort both use electrical control of the valves.

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CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. If there is any further hindrance to allowance of the pending claims, the Examiner is invited to contact the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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By: Sanjivpal S. Gill
Sanjivpal S. Gill
Registration No. 42,578
Attorney of Record
Customer No. 20,995
(415) 954-4114

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